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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,154	09/17/2003	Wolfgang Strache	202-085	4177
7590	06/28/2006		EXAMINER	
Walter Ottesen Patent Attorney P.O. Box 4026 Gaithersburg, MD 20885-4026				MAKI, STEVEN D
		ART UNIT	PAPER NUMBER	1733

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,154	STRACHE ET AL.	
	Examiner	Art Unit	
	Steven D. Maki	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 April 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) 6-16 and 18 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,4,17,19 and 20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 17 April 2006 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

1) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2) Claims 1, 4, 17, 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1, 4, 17, 19 and 20, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is "an unencapsulated substrate exposed directly to the atmosphere within the tire". The original disclosure describes the substrate as a housing. The original disclosure also describes the substrate as being composed of epoxy resin, plastic, rubber, elastomer or foil. However, the original disclosure fails to reasonably convey the substrate as being "unencapsulated". It is not seen how the above noted general description of the substrate and the schematic illustration of the substrate supports "unencapsulated" (a term having no explicit basis in the original disclosure). It is noted that the manufacturing steps for fabricating the substrate are not described in the original disclosure.

As to claims 1, 4, 17, 19 and 20, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art

that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is "sliding cushion support". The original disclosure describes "sliding support" and "cushion support". However, the original disclosure fails to reasonably convey combining these species such that the sliding support is also a "cushion support".

3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4) Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19, the scope and meaning of "said cushion support being a leg-like structure to provide increased decoupling between said transponder and said inner side of said tire" is ambiguous. One of ordinary skill in the art is not reasonably apprised of the scope of protection afforded by this language. It is acknowledged that figure 2 of the original disclosure illustrates recesses extending through the entire thickness of the cushion support. It is also acknowledged that the original disclosure describes the cushion support of figure 2 as being "leg-shaped". However, this "leg-shape" is seen only in cross section. A top view of figure 2 would fail to reveal any leg shape. It is therefore unclear if claim 19 requires recesses extending through the entire thickness of the cushion support or some other structure. If not, then it is unclear if claim 19 reads on a single "leg shaped structure" which is foamed or has holes / shallow depressions.

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5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Japan 741 (transponder arrangement per se)

7) **Claims 1 and 19 is rejected under 35 U.S.C. 102(a), (b) as being anticipated by Japan 741 (JP 2001-308741).**

Japan 741 discloses a transponder for a tire comprising an upper sheet of silicone resin, a silicone resin layer 3 in which an antenna coil 1 and electronic circuitry 2 (transponder chip) are embedded and a lower sheet 4 of silicone resin. See figure 1. The silicone resin may have a JIS A hardness of 55. See paragraph 12 of machine translation. The transponder is excellent in thermal resistance and shock resistance.

As to claim 1, the claimed transponder arrangement is anticipated by Japan 741's transponder. The claimed substrate reads on at least silicone resin layer 3. The transponder chip and antenna read on the electronic circuitry 2 and antenna coil 1. The silicone resin is relatively soft since it may have a JIS A hardness of 55. The claimed

connecting structure being a soft cushion support made of silicone layer to thereby considerably lengthen the service life of the transponder reads on the lower silicone resin sheet 4. The description of "for connecting said substrate to said inner side" relates to intended use of the transponder arrangement and fails to require structure different from that disclosed by Japan 741.

Applicant argues that there is no connecting piece in Japan 741 for connecting the substrate to the inner side of the tire. This argument is not persuasive since Japan 741 manufactures the transponder using silicone resin 3 and sheet 4 of silicon resin. In other words, Japan 741 does not merely embed the antenna coil 1 and electronic circuitry 2 in silicon resin 3 such that Japan 741's transponder arrangement consists of silicone resin layer 3, antenna coil 1 and electronic circuitry 2. The description of "unencapsulated" fails to exclude silicone resin sheet 5. Claims 1 and 19 fail to require the tire. Claims 1 and 19 fail to require the connection between the connecting structure and the tire.

As to claim 19, "said cushion support being a leg-like structure to provide increased decoupling between said transponder and said inner side of said tire" is sufficiently broad to read on the leg shaped silicon resin sheet 4.

8) **Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 741 in view of Pappas et al (US 4319220).**

As to claims 4 and 20, it would have been obvious to one of ordinary skill in the art to provide the sheets 4, 5 of Japan 741's transponder such that they comprise silicone rubber foam since (1) Japan 741 suggests using silicone resin for the sheets 4,

5 so that the transponder has thermal and shock resistance and (2) Papas et al, also directed to tire monitoring, suggests using silicone rubber foam (col. 9 lines 49-58) to prevent damage due to bending, tension, etc.

Applicant argues that the silicone in Pappas et al, which is used to encase an antenna 152, bears no relationship to supporting a substrate on the inside wall of the tire. This argument is off-point. Japan 741's silicone resin sheet 4 corresponds to the claimed connecting structure of the claimed transponder arrangement. Japan 741 and Pappas et al are both directed to the tire art. The silicone material in Japan 741 and the silicone material in Pappas et al are used as elastic material to prevent damage to an electronic component associated with a tire. Pappas et al adds to the disclosure of Japan 741 by suggesting the use of foam silicone resin. One of ordinary skill in the art would readily expect from the teachings of Pappas et al that the use of foam silicone resin in Japan 741's transponder arrangement would provide elastic material having the capability of stretching and bending so as to improve shock resistance as desired by Japan 741.

Japan 517 (transponder arrangement and tire)

9) **Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 517 (JP 9-136517) in view of Koch et al 065 (US 5,500,065) and Japan 741 (JP 2001-308741).**

Japan 517 discloses a transponder 1 comprising a transponder body 1A and an attachment part 1B. The transponder body comprises a chip and an antenna (electronic circuitry and an aerial wire printed on a ceramic substrate). The attachment part 1B is

an elastic member. The transponder 1 is bonded to the tire at for example the inner surface of a sidewall of the tire (figure 5). Japan 517, directed to tire monitoring, does not specifically recite the transponder as comprising a transponder chip and antenna embedded in a substrate. However, it would have been obvious to use a transponder chip and antenna embedded in a substrate as Japan 517's transponder 1 since Koch et al, also directed to tire monitoring, suggests encasing / encapsulating a monitoring device (transponder) comprising a microchip and antenna in material to inhibit straining of the device.

Furthermore, it would have been obvious to one of ordinary skill in the art to use silicone for Japan 517's elastic attachment part for providing shock resistance for the transponder body such that the elastic attachment part considerably lengthens the service life of the transponder since Japan 741, also directed to transponders for tires, suggests using silicone resin to provide excellent shock resistance for a transponder for a tire.

10) Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 517 (JP 9-136517) in view of Koch et al 065 (US 5500065).

Japan 517 discloses a transponder 1 comprising a transponder body 1A and an attachment part 1B. The transponder body comprises a chip and an antenna (electronic circuitry and an aerial wire printed on a ceramic substrate). The attachment part 1B is an elastic member. The transponder 1 is bonded to the tire at for example the inner surface of a sidewall of the tire (figure 5). Japan 517, directed to tire monitoring, does not specifically recite the transponder as comprising a transponder chip and antenna

embedded in a substrate. However, it would have been obvious to use a transponder chip and antenna embedded in a substrate as Japan 517's transponder 1 since Koch et al, also directed to tire monitoring, suggests encasing / encapsulating a monitoring device (transponder) comprising a microchip and antenna in material to inhibit straining of the device.

The claimed cushion support reads on the elastic attachment part 1B disclosed by Japan 517. In paragraph 81 of the machine translation, Japan 517 teaches that the elastic member absorbs / éases impact so that effect on the transponder is avoided. The relative term "soft" fails to define a hardness different from that suggested by Japan 517. The description of "said cushion support being a leg-like structure to provide increased decoupling between said transponder and said inner side of said tire" is sufficiently broad to read on the leg shaped elastic attachment part.

11) Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 517 in view of Koch et al 065 as applied above and further in view of Hsiao (US 6,138,729), Bugg (US 1,073,329) or Japan 403 (JP 2-191403).

The description of "said cushion support being a leg-like structure to provide increased decoupling between said transponder and said inner side of said tire" is sufficiently broad to read on Japan 517's elastic attachment part. In any event: It would have been obvious to one of ordinary skill in the art to form Japan 517's elastic part for providing shock resistance for the transponder body such that "said cushion support is a leg-like structure to provide increased decoupling between said transponder and said inner side of said tire" since it is well known / conventional to improve elasticity / shock

absorbtion of a layer of material by forming recesses (grooves, perforations, holes) in the layer as evidenced by Hsiao, Bugg, or Japan 403.

12) Claims 1, 4, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 517 in view of Koch et al 065, Kobe et al (US 5643648) and Pappas et al (US 4,319220).

Japan 517 discloses a transponder 1 comprising a transponder body 1A and an attachment part 1B. The transponder body comprises a chip and an antenna (electronic circuitry and an aerial wire printed on a ceramic substrate). The attachment part 1B is an elastic member. The transponder 1 is bonded to the tire at for example the inner surface of a sidewall of the tire (figure 5). Japan 517, directed to tire monitoring, does not specifically recite the transponder as comprising a transponder chip and antenna embedded in a substrate. However, it would have been obvious to use a transponder chip and antenna embedded in a substrate as Japan 517's transponder 1 since Koch et al, also directed to tire monitoring, suggests encasing / encapsulating a monitoring device (transponder) comprising a microchip and antenna in material to inhibit straining of the device. Japan 517 teaches that the elastic member absorbs / eases impact so that effect on the transponder is avoided. See paragraph 81 of machine translation. Japan 517 does not recite using foam material for the elastic material.

As to claims 1, 4, 17, 19 and 20, it would have been obvious to one of ordinary skill in the art to use foam for the elastic member of Japan 517 such that the foamed elastic member is a soft cushion support considerably lengthening the service life of the transponder since (1) Japan 517, directed to tire monitoring, teaches bonding the

elastic member having the transponder on one side thereof to the inner surface of a tire, (2) Kobe et al, also directed to the tire art, teaches **elastic material** suitable for bonding to a tire component (tire inner tube) includes foam (col. 5 lines 25-32) and (3) Pappas et al suggests using silicone rubber foam (col. 9 lines 49-58) to prevent damage due to bending, tension, etc for an antenna used in tire monitoring.

As to claim 4 (foam), Kobe et al and Pappas et al suggest using foam material for Japan 517's elastic material. In other words, Japan 517 requires using of elastic material. Foam material is known to be an elastic material in the tire art as evidenced by Kobe et al and Pappas et al. Using of foam material for the elastic material is merely the implementation of Japan 517's teaching to use elastic material to provide shock resistance for a transponder.

As to claim 20 (cellular rubber), "cellular rubber" reads on foamed rubber.

As to claim 19 (leg-like), the description of "said cushion support being a leg-like structure to provide increased decoupling between said transponder and said inner side of said tire" is sufficiently broad to read on *the structure* between the voids of the foam suggested by Kobe et al and Pappas et al. Such structure between the voids corresponds to the *structure* between recesses 9 in figure 2 of applicant's disclosure.

As to claims 1 and 17, Pappas et al suggests using foam silicone rubber.

Applicant argues that there is no reference in Japan 517 to a substrate but simply to exposed transponder components. Applicant is incorrect. Japan 517 describes "An electronic circuitry and an aerial wire are formed of printing on a ceramic substrate." (paragraph 68 of translation). More importantly, Koch et al 065 motivates one of

ordinary skill in the art to encapsulate Japan 517's transponder body 1A in a rigid encasement of material such as epoxy to enhance rigidity and inhibit straining of the device. Inhibiting straining of the transponder body 1A would have been desired by one of ordinary skill in the art because Japan 517 teaches easing impact on the transponder. It is noted that Koch et al 065 teaches that encapsulation of a monitoring device (transponder body), while optional, is desirable (col. 4 lines 24-52). It is also noted that Koch et al 065 teaches that an optional substrate 110 may be used with monitoring device contained within a housing (figure 11, col. 5 lines 45-58)

Applicant argues that there is no discussion in Koch et al 065 of a substrate but rather only of an encapsulation for components. This argument is not understood since the encapsulation material forms the substrate. See figure 6 of Koch et al.

Applicant argues that there is no thread which ties the two references to each other. This argument is not persuasive. Japan 517 and Koch et al 065 are both directed to providing a tire with a transponder. Koch et al 065 motivates one of ordinary skill in the art to encapsulate a transponder with material such as epoxy to inhibit straining of the transponder. Japan 517 and Koch et al 065 share the common desire of protecting a transponder. Koch et al 065 teaches providing protection of the transponder itself. Japan 517 improves protection of a transponder by "decoupling" the transponder from the surface of the tire (whereat deformations and stresses occur during operational use of the tire) using the same solution as that disclosed by applicant - use of an elastic attachment part. No unexpected results over the applied prior art has been shown.

With respect to applicant's argument that Kobe et al is further remote from applicant's invention, examiner emphasizes that Japan 517 teaches attaching elastic material having a transponder mounted thereon to the inner surface of a tire and Kobe et al, also directed to attaching elastic material to the inner surface of a tire, teaches elastic material as including foam material. The suggestion to use foam material as elastic material is also found in Pappas et al.

Remarks

13) In view of the English translation of applicant's foreign priority document filed 2-17-06, applicant is entitled to the benefit of the filing date (9-18-02) of his foreign application. Accordingly, Hahn et al (filed 1-17-03) and Dominak et al (filed 3-19-03) have been removed as prior art.

Applicant's arguments filed 4-17-06 have been fully considered but they are not persuasive. Applicant's arguments are addressed above.

14) No claim is allowed.

15) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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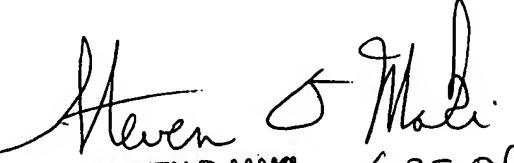
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

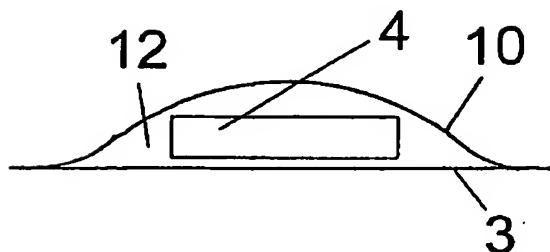
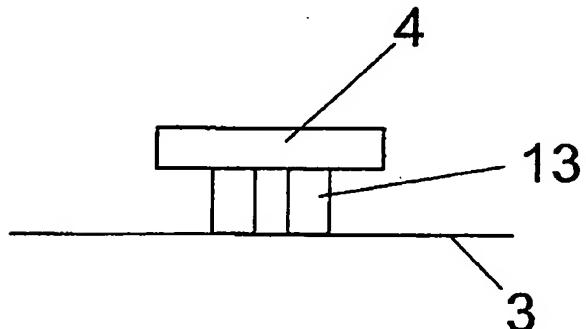
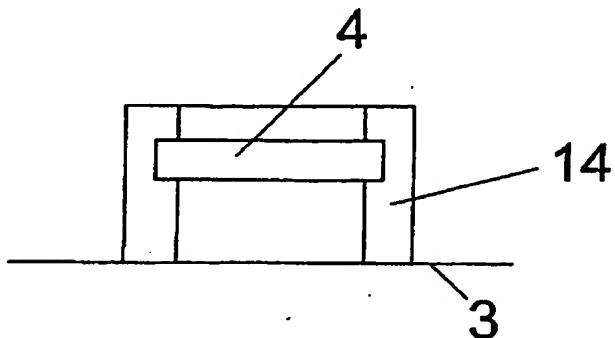
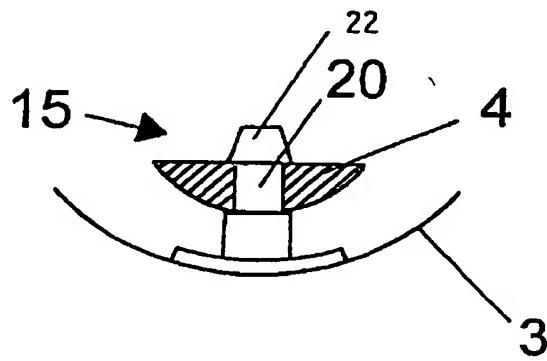
16) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Maki
June 25, 2006


STEVEN D. MAKI
PRIMARY EXAMINER
6-25-06

Replacement Sheet
Serial No. 10/664,154**FIG. 5****FIG. 6****FIG. 7****FIG. 8**

accepted
and
approved
JFM
6-25-06